"Low passives" and the inchoative-to-passive reanalysis in Greek and Sanskrit

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Languages differ in whether their passives are compatible with transitive input structures. While in some languages, the input to passives is the projection Voice that has merged an external argument ("high passive", e.g., German, English, Modern Standard Arabic), it has been argued that other languages only have a lower (non-active or "middle") Voice head that is incompatible with an external argument in Spec.VoiceP and typically combines different non-active interpretations (anticausative, reflexive, passive), e.g., Modern Greek and Palestinian Arabic (Bruening 2013, Alexiadou & Doron 2012, Alexiadou 2013, Alexiadou, Anagnostopolou & Schäfer 2015). The two structures are illustrated in 1) (based on Alexiadou 2013):

1. a) [$_{PassP}$ Passive [$_{VoiceP}$ Voice [$_{vP}$ v [Root]]]]
   b) [$_{VoiceP-Non-Act}$ Voice$_{Non-Act}$ [$_{vP}$ v [Root]]]

This classification leaves open the possibility that there are languages with both types of passives. Classical Greek (CG) and Sanskrit do have two types of passives: One in which non-active ("middle") inflectional endings are used (2a, 3a), and one in which a specifically "passive" suffix appears close to the root and *co-occurs* with the inflectional voice morphology of the endings (2b, 3b):

	2. Classical Greek		3. Sanskrit
a.	*theín-o-mai* 'I am/get struck, hit'	a.	*á-sto-ṣ-ṭa* 'he/she was/got praised'
	strike-v-1SG.NO-PAST.**NONACT**		PAST-praise-AOR-3SG.PAST.**NONACT**
b.	*e-dú-thē-n* 'I was sunk'	b.	*bhri-yá-te* 'he/she is/gets carried'
	PAST-sink-**PFV.PASS**-1SG.PAST.**ACT**		carry-**IPFV.PASS**-3SG.NONPAST.**NONACT**

Given that the passive stem-forming suffix co-occurs with the voice morphology of the endings, these languages could be interpreted as having two different Voice heads that can co-occur. This situation is excluded by Alexiadou 2013 and passim since the "high" passive should not be able to select a Voice head without an external argument ("middle"). Even in systems in which passive *can* select non-active/middle VoiceP (e.g. Sundaresan & McFadden 2017), the forms in 2b-3b would violate the Mirror Principle, since the "passive" morpheme is closer to the root than the "middle" morpheme. The structure suggested by 2b-3b is in fact:

4. [$_{VoiceNon-Act}$ VoiceNon-Act [$_{PassP}$ Pass [$_{vP}$ v [Root]]]]

I argue that only the voice morphology of the endings is an exponent of the head Voice in CG and Sanskrit, while the "low" passive morphology is an exponent of the lower projection *v*. The "passive" suffixes *-yá-* in Sanskrit and *-thē-* in CG developed through a diachronic reanalysis of stative and inchoative suffixes as eventive passive suffixes; assuming an articulated event layer with different "flavors" of *v* (e.g., Alexiadou & Anagnostopoulou 2004, Folli & Harley 2004, Ramchand 2008, Sundaresan & McFadden 2017). The oldest examples of *-thē-* in Homeric Greek are indeed inchoative rather than passive, and Sanskrit has a related (unaccented) suffix *-ya-* that forms stative/inchoative verbs. This analysis explains why the CG and Sanskrit "passive" suffixes are in complementary distribution with "stem-forming" *v* morphology (*-n(a)-* in Sanskrit, *-s(a)-* in CG in ex. 5-6) rather than with Voice morphology:

		5. Sanskrit *yuj-* 'yoke'	6. CG *lou-ō* 'wash'
a.	Active	*yu<ná>k-ti* 'yokes'	*é-lou-s-a* 'I washed'
		yoke<V.IPFV>-3SG.NONPAST.**ACT**	PAST-wash-V.PFV-1SG.PAST.**ACT**
b.	Middle/	*yu<ñ>j-té* 'yokes for one's own benefit	*e-lou-sá-mēn* 'I washed myself'
	Voice$_{Non-Act}$	yoke<V.IPFV>-3SG.PRES.**NONACT**	PAST-wash-V.PFV-1SG.PAST.**NONACT**
c.	Passive	*yuj-yá-te* 'is (being) yoked'	*e-loú-thē-n* 'I was washed'
		yoke-**IPFV.PASS**-3SG.NONPAST.**NONACT**	PAST-wash-**PFV.PASS**-1SG.PAST.**ACT**

This analysis also explains why these "low passives" cannot be built on transitive input structures: **yu-ñ-j-yá-te* with co-occurrence of the transitivizing infix and the passivizing *-yá*-suffix is impossible in 5c); likewise in Greek (6c., *e-loú-thē-n* instead of **e-loú-s(a)-thē-n*). These heads compete for the same structural position and are therefore not compatible. Finally, this analysis explains the restriction of the

"low passives" to particular aspect stems (present/imperfective in Sanskrit, aorist/perfective in CG), since perfective and imperfective aspect stems are each built on distinct classes of verbalizing suffixes in both languages.

Building on this previous work (e.g., Embick 2004, Alexiadou, Anagnostopoulou & Schäfer 2015), I assume that non-active/middle morphology in Sanskrit and CG is assigned when Voice does not merge an external argument in its specifier:

    7.   Voice -> Voice[NonAct]/_ No DP specifier   (Alexiadou, Anagnostopolou & Schäfer 2015)

"High passives" select Voice with an external argument are therefore not expected to interact with middles. However, Voice$_{NONACT}$ itself *is* expected to interact with the properties of the lower "event layer" projections, including the "low passives" of CG and Sanskrit. This property can be used to explain the parametrization in the co-occurrence of "low" passives with active vs. non-active endings: while passive -*thē*- in CG triggers obligatory active endings, (1b), passive -*yá*- in Sanskrit triggers obligatory non-active endings, (2b). I argue that this is because the Greek suffix developed out of an unaccusative v$_{BECOME}$ that is never selected by Voice and therefore receives active endings by the Elsewhere Principle (since non-active is the more specific context, (7)), illustrated in 8b). The Sanskrit suffix, on the other hand, is compatible with a higher Voice head (as shown by the fact that its cognates in other Indo-European languages alternate between active and non-active endings) and therefore takes non-active endings since no external argument is merged in its specifier, 8a).

    8.   a. Sanskrit *bhri-yá-te* 'is carried'   b. Greek *(e)lou-thē-Ø* 'was washed'
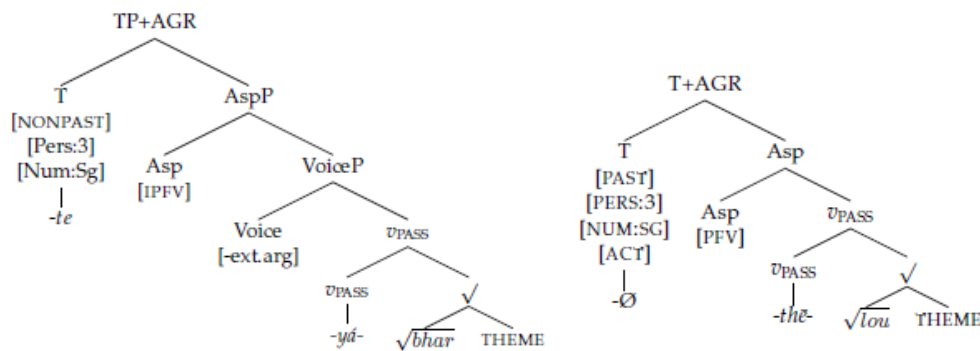
The data and analysis presented here contribute to the typology of passives and their diachronic development. While the stative-to-passive reanalysis is well-studied for analytic constructions of the BE + participle type, the diachrony of synthetic passives is understudied. The evidence from CG and Sanskrit suggests that synthetic passives, like analytic ones, develop through the reanalysis of lower "stative/result" or "become" *v* heads as eventive *v* heads (called v$_{PASS}$ in (8)). Syncretism between inchoative/anticausative and passive morphology has been observed in a number of languages (e.g., Turkish, Somali, Tigre…), and there is a growing body of literature that suggests that morphosyntactic change involves the reanalysis of lower (functional/lexical) categories as higher (functional categories), e.g., Roberts & Roussou 2003, Van Gelderen 2011. Together with the CG and Sanskrit evidence presented here, this suggests that synthetic passives diachronically develop out of anticausative/inchoative markers, often resulting in synchronic syncretism between these functions.

References: Alexiadou, A. 2013. Where is non-active morphology? In: *Proceedings of the 20th International Conference on Head-Driven Phrase Structure Grammar*, 244–62. CSLI publications. **Alexiadou**, A. & E. **Doron**. 2012. The syntactic construction of two non-active voices: passive and middle. *Journal of Linguistics* 48:1–34. **Alexiadou**, A., E. **Anagnostopolou** & F. **Schäfer**. 2015. *External Arguments in Transitivity Alternations: A Layering Approach*. OUP. **Bruening**, B. 2013. *By*-phrases in passives and nominals. *Syntax* 16/1–41. **Embick**, D. 2004. Unaccusative syntax and verbal alternations. In: *The Unaccusativity Puzzle*, 137– 58. OUP. **Folli**, R. and H. **Harley**. 2004. Consuming results in Italian and English: flavors of *v*. In *Aspectual Inquiries*, 95-120. Dordrecht: Kluwer. **Gelderen**, E. van. 2011. *The Linguistic Cycle: Language Change and the Language Faculty*. OUP. **Ramchand**, G. 2008. *Verb meaning and the lexicon: a first-phase syntax*. Cambridge University Press. **Roberts**, I. and A. **Roussou**. 2003. *Syntactic Change: A Minimalist Approach to Grammaticalization*. Cambridge University Press. **Sundaresan**, S. and T. **McFadden**. 2017. The articulated *v* layer: evidence from Tamil. In *The Verbal Domain*. OUP.